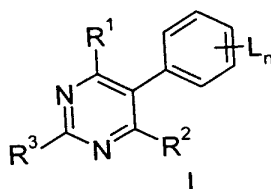


We claim:

1. A pyrimidine of the formula I



5 in which the index and the substituents are as defined below:

n is an integer from 1 to 5;

10 L is halogen, cyano, nitro, cyanato (OCN), C<sub>1</sub>-C<sub>8</sub>-alkyl, C<sub>2</sub>-C<sub>10</sub>-alkenyl, C<sub>2</sub>-C<sub>10</sub>-alkynyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy, C<sub>2</sub>-C<sub>10</sub>-alkenyloxy, C<sub>2</sub>-C<sub>10</sub>-alkynyloxy, C<sub>3</sub>-C<sub>6</sub>-cycloalkyl, C<sub>3</sub>-C<sub>6</sub>-cycloalkenyl, C<sub>3</sub>-C<sub>6</sub>-cycloalkoxy, C<sub>3</sub>-C<sub>6</sub>-cycloalkenyloxy, -C(=S)-N(A')A, -C(O)-A, -C(=O)-O-A, -C(=O)-N(A')A, C(A')=(N-OA), N(A')A, N(A')-C(=O)-A, N(A'')-C(=O)-N(A')A, S(=O)<sub>m</sub>-A, S(=O)<sub>m</sub>-O-A or S(=O)<sub>m</sub>-N(A')A;

15 m is 0, 1 or 2;

20 A, A', A'' independently of one another are hydrogen, C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>2</sub>-C<sub>6</sub>-alkenyl, C<sub>2</sub>-C<sub>6</sub>-alkynyl, C<sub>3</sub>-C<sub>8</sub>-cycloalkyl, C<sub>3</sub>-C<sub>8</sub>-cycloalkenyl, where the organic radicals may be partially or fully halogenated or may be substituted by cyano or C<sub>1</sub>-C<sub>4</sub>-alkoxy, or A and A' together with the atoms to which they are attached are a five- or six-membered saturated, partially unsaturated or aromatic heterocycle which contains one to four heteroatoms from the group consisting of O, N and S;

25 R<sup>1</sup> is C<sub>1</sub>-C<sub>10</sub>-alkyl, C<sub>2</sub>-C<sub>10</sub>-alkenyl, C<sub>2</sub>-C<sub>10</sub>-alkynyl, C<sub>3</sub>-C<sub>12</sub>-cycloalkyl, C<sub>3</sub>-C<sub>10</sub>-cycloalkenyl, phenyl or a five- to ten-membered saturated, partially unsaturated or aromatic heterocycle which is attached via carbon and which contains one to four heteroatoms from the group consisting of O, N and S;

30 R<sup>2</sup> is halogen, cyano, C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>2</sub>-C<sub>4</sub>-alkenyl, C<sub>2</sub>-C<sub>4</sub>-alkynyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy, C<sub>3</sub>-C<sub>4</sub>-alkenyloxy or C<sub>3</sub>-C<sub>4</sub>-alkynyloxy;

35

$R^3$  is a five- or six-membered saturated, partially unsaturated or aromatic mono- or bicyclic heterocycle which contains one to four heteroatoms from the group consisting of O, N and S,

5 where the aliphatic, alicyclic or aromatic groups of the radical definitions of  $L$ ,  $R^1$ ,  $R^2$  and/or  $R^3$  for their part may be partially or fully halogenated or may carry one to four groups  $R^a$ :

10  $R^a$  is halogen, cyano,  $C_1$ - $C_8$ -alkyl,  $C_2$ - $C_{10}$ -alkenyl,  $C_2$ - $C_{10}$ -alkynyl,  $C_1$ - $C_6$ -alkoxy,  $C_2$ - $C_{10}$ -alkenyloxy,  $C_2$ - $C_{10}$ -alkynyloxy, OH, SH, two vicinal groups  $R^a$  may be (=O) or (=S),  $C_3$ - $C_6$ -cycloalkyl,  $C_3$ - $C_6$ -cycloalkenyl,  $C_3$ - $C_6$ -cycloalkoxy,  $C_3$ - $C_6$ -cycloalkenyloxy,  $-C(=O)-A$ ,  $-C(=O)-O-A$ ,  $-C(=O)-N(A')A$ ,  $C(A')(=N-OA)$ ,  $N(A')A$ ,  $N(A')-C(=O)-A$ ,  $N(A'')-C(=O)-N(A')A$ ,  $S(=O)_m-A$ ,  $S(=O)_m-O-A$  or  $S(=O)_m-N(A')A$ , where  $m$ ,  $A$ ,  $A'$ ,  $A''$  are as defined above and where the aliphatic, alicyclic or aromatic groups for their part may be partially or fully halogenated or may carry one to three groups  $R^b$ , where  $R^b$  has the same meaning as  $R^a$ .

20 2. A pyrimidine as claimed in claim 1, in which the index and the substituents are as defined below:

$L$  is halogen, cyano,  $C_1$ - $C_8$ -alkyl,  $C_2$ - $C_{10}$ -alkenyl,  $C_2$ - $C_{10}$ -alkynyl,  $C_1$ - $C_6$ -alkoxy,  $C_2$ - $C_{10}$ -alkenyloxy,  $C_2$ - $C_{10}$ -alkynyloxy,  $-C(=O)-O-A$ ,  $N(A')-C(=O)-A$  or  $S(=O)_m-A$ ;

25  $m$  is 0, 1 or 2;

30  $A, A', A''$  independently of one another are hydrogen,  $C_1$ - $C_6$ -alkyl,  $C_2$ - $C_6$ -alkenyl,  $C_2$ - $C_6$ -alkynyl,  $C_3$ - $C_8$ -cycloalkyl, where the organic radicals may be partially or fully halogenated or  $A$  and  $A'$  together with the atoms to which they are attached are a partially unsaturated or aromatic heterocycle which contains one to four heteroatoms from the group consisting of O, N and S;

35  $R^1$  is  $C_1$ - $C_{10}$ -alkyl,  $C_2$ - $C_{10}$ -alkenyl,  $C_2$ - $C_{10}$ -alkynyl,  $C_3$ - $C_{12}$ -cycloalkyl,  $C_3$ - $C_{10}$ -cycloalkenyl;

$R^2$  is  $C_1$ - $C_4$ -alkyl, cyano or chlorine,

40 where the aliphatic, alicyclic or aromatic groups of the radical definitions of  $L$ ,  $R^1$  and/or  $R^3$  for their part may be partially or fully halogenated or may carry one to

four groups  $R^a$ :

5  $R^a$  is halogen, cyano,  $C_1$ - $C_8$ -alkyl,  $C_2$ - $C_{10}$ -alkenyl,  $C_2$ - $C_{10}$ -alkynyl,  $C_1$ - $C_6$ -alkoxy,  $C_2$ - $C_{10}$ -alkenyloxy,  $C_2$ - $C_{10}$ -alkynyloxy,  $C_3$ - $C_6$ -cycloalkyl,  $C_3$ - $C_6$ -cycloalkenyl,  $C_3$ - $C_6$ -cycloalkoxy,  $C_3$ - $C_6$ -cycloalkenyloxy,  $-C(=O)-A$ ,  $-C(=O)-O-A$ ,  $-C(=O)-N(A')A$ ,  $C(A')(=N-OA)$ ,  $N(A')A$ ,  $N(A')-C(=O)-A$ ,  $N(A'')-C(=O)-N(A')A$ ,  $S(=O)_m-A$ ,  $S(=O)_m-O-A$  or  $S(=O)_m-N(A')A$ .

10 3. A pyrimidine as claimed in claim 1, in which  $R^3$  is pyrrolyl, pyrazolyl, imidazolyl, 1,2,3-triazolyl, 1,2,4-triazolyl, tetrazolyl, oxazolyl, isoxazolyl, 1,3,4-oxadiazolyl, furanyl, thiophenyl, thiazolyl, isothiazolyl, pyridinyl, pyrimidinyl, pyrazinyl, pyridazinyl, 1,2,3-triazinyl, 1,2,4-triazinyl, pyrrolidinyl, piperidinyl, hexahydro-azepinyl or dihydropyridinyl, where the heterocycle may be attached to the pyrimidine ring via carbon or nitrogen and may carry up to three substituents  $R^a$ :

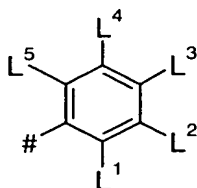
15  $R^a$  is halogen, cyano,  $C_1$ - $C_8$ -alkyl,  $C_2$ - $C_{10}$ -alkenyl,  $C_2$ - $C_{10}$ -alkynyl,  $C_1$ - $C_6$ -alkoxy,  $C_2$ - $C_{10}$ -alkenyloxy,  $C_2$ - $C_{10}$ -alkynyloxy, OH, SH, two vicinal groups  $R^a$  may be  $(=O)$  or  $(=S)$ ,  $C_3$ - $C_6$ -cycloalkyl,  $C_3$ - $C_6$ -cycloalkenyl,  $C_3$ - $C_6$ -cycloalkoxy,  $C_3$ - $C_6$ -cycloalkenyloxy,  $-C(=O)-A$ ,  $-C(=O)-O-A$ ,  $-C(=O)-N(A')A$ ,  $C(A')(=N-OA)$ ,  $N(A')A$ ,  $N(A')-C(=O)-A$ ,  $N(A'')-C(=O)-N(A')A$ ,  $S(=O)_m-A$ ,  $S(=O)_m-O-A$  or  $S(=O)_m-N(A')A$ .

20

25 4. A pyrimidine as claimed in claim 1, where  $R^3$  is pyrazol-1-yl, 1,2,4-triazol-1-yl, pyridin-2-yl, pyrimidin-2-yl, pyridazin-3-yl, pyrrolidin-2-on-1-yl, piperidin-2-on-1-yl, hexahydro-2H-azepin-2-on-1-yl, pyrrolidin-2-thion-1-yl, piperidin-2-thion-1-yl, hexahydro-2H-azepin-2-thion-1-yl, 1,2-dihydropyridin-2-on-1-yl.

5. A pyrimidine as claimed in claim 1, where  $R^2$  is methyl, chlorine or ethyl.

30 6. A pyrimidine as claimed in any of claims 1 to 6, where the phenyl group substituted by  $L_n$  is the group B



B

where # is the point of attachment to the pyrimidine skeleton and

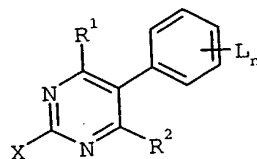
35  $L^1$  is fluorine, chlorine,  $CH_3$  or  $CF_3$ ;

$L^2, L^4$  independently of one another are hydrogen,  $CH_3$  or fluorine;

71

- $L^3$  is hydrogen, fluorine, chlorine, bromine, cyano,  $CH_3$ ,  $SCH_3$ ,  $OCH_3$ ,  $SO_2CH_3$ ,  $CO-NH_2$ ,  $CO-NHCH_3$ ,  $CO-NHC_2H_5$ ,  $CO-N(CH_3)_2$ ,  $NH-C(=O)CH_3$ ,  $N(CH_3)-C(=O)CH_3$  or  $COOCH_3$  and
- $L^5$  is hydrogen, fluorine, chlorine or  $CH_3$ .

- 5
7. A process for preparing pyrimidines of the formula I as claimed in claim 1, where  $R^3$  is a nitrogen-containing heterocycle attached via nitrogen, which comprises reacting a compound of the formula III,



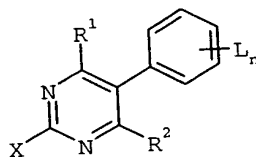
III

10

in which the substituents  $L$ ,  $R^1$  and  $R^2$  are as defined in claim 1 and  $X$  is halogen,  $C_1$ - $C_6$ -alkoxy,  $C_1$ - $C_6$ -alkylthio,  $C_1$ - $C_6$ -alkylsulfoxyl or  $C_1$ - $C_6$ -alkylsulfenyl, with a heterocycle of the formula  $R^3-H$  (IV), if appropriate in the presence of a base.

15

8. A intermediate of the formula III



III

20

where the substituents  $R^1$  and  $L_n$  are as defined in claim 1,  $X$  is as defined in claim 7 and  $R^2$  is cyano,  $C_1$ - $C_4$ -alkyl,  $C_2$ - $C_4$ -alkenyl,  $C_2$ - $C_4$ -alkynyl,  $C_1$ - $C_4$ -alkoxy,  $C_3$ - $C_4$ -alkenyloxy or  $C_3$ - $C_4$ -alkynyloxy, where the alkyl, alkenyl and alkynyl radicals of  $R^2$  may be substituted by halogen, cyano, nitro,  $C_1$ - $C_2$ -alkoxy or  $C_1$ - $C_4$ -alkoxycarbonyl.

25

9. Residual composition, which comprises a solid or liquid carrier and a compound of the formula I as claimed in claim 1.

- 30
10. A method for controlling phytopathogenic harmful fungi, which comprises treating the fungi or the materials, plants, the soil or seeds to be protected against fungal attack with an effective amount of a compound of the formula I as claimed in claim 1.